



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,265	03/27/2001	Douglas L. Voigt	10003993-1	4301

7590 10/03/2003

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

FILIPCZYK, MARCIN R

ART UNIT	PAPER NUMBER
----------	--------------

2171

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

ay

Office Action Summary

Application No.

09/819,265

Applicant(s)

VOIGT, DOUGLAS L.

Examiner

Marc R Filipczyk

Art Unit

2171

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Response to Amendment

This action is responsive to Applicant's response filed on July 16, 2003 (paper #5).

Claims 1-29 remain for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10, 12, 13, 15, 21 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pothapragada et al. (U.S. 6442682) (Pothapragada) in view of Taoda (U.S. 5857459).

Regarding claims 1, 15, 21 and 26, Pothapragada disclose: A method, a system and computer produce for accessing a data storage device controlled by array controller processes, the method including the steps of:

(c) if the file system access operation request specifies a divertible operation, diverting the divertible operation from file system processes associated with the data storage device to the array controller processes (308, fig. 1 and corresponding text, Pothapragada);

(d) performing the divertible operation with the array controller processes (col. 7, lines 13-30, Pothapragada); and

Art Unit: 2171

(e) updating a file system data management arrangement with operation result information from the array controller processes, the file system data management arrangement being controlled by the file system processes (342, fig. 1L and corresponding text, Pothapragada).

However, Pothapragada didn't disclose: receiving a file system access operation request; and determining if the file system access operation request specifies an operation comprising a divertible operation. On the other hand, Taoda disclose: receiving a file system access operation request (ST21, fig. 13 and corresponding text, Taoda); and determining if the file system access operation request specifies an operation comprising a divertible operation (ST22, fig. 13 and corresponding text, Taoda). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include receiving and determining if the file system access operation request specifies an operation comprising a divertible operation in the system of Pothapragada as taught by Taoda. The motivation being to enable the user to read and write the large file from the storage devices faster.

In addition, Pothapragada/Taoda disclose: non-divertible operations in a received file system access operation request (312, 314, fig. 1 and corresponding text, Pothapragada); file system program code for performing each non-divertible operation included in a received access operation request and maintaining a file system data management arrangement which includes information for each file in the file system (fig. 4 and corresponding text, Pothapragada); an input/output arrangement connected to the data processing means for passing communications between a file system client and the data processing means (586, 590, 592, 594, 596, fig. 11 and corresponding text, Pothapragada); and an interface between the data processing means and the data storage device (558, fig. 11 and corresponding text, Pothapragada).

Regarding claim 2, all the limitations of this claim have been noted in the rejection of claim 1 above. In addition, Pothapragada/Taoda disclose: wherein the operation comprises a create operation and wherein the operation result information includes a reference to the array storage space to which data for the file specified in the create operation is to be written (col. 6, lines 12-33, Pothapragada).

Regarding claim 3, all the limitations of this claim have been noted in the rejection of claim 2 above. In addition, Pothapragada/Taoda disclose: wherein the step of updating the file system data management arrangement includes causing the file system processes to produce an entry in the file system data management arrangement which includes identifying information for the specified data and a reference to the array storage space to which the specified data is to be written (col. 7, lines 44-64, Pothapragada).

Regarding claim 4, all the limitations of this claim have been noted in the rejection of claim 1 above. In addition, Pothapragada/Taoda disclose: wherein the divertible operation comprises a read operation and further including the step of reading an array storage space reference for the file specified in the read operation (fig. 6 and corresponding text, Pothapragada).

Regarding claim 5, all the limitations of this claim have been noted in the rejection of claim 4 above. In addition, Pothapragada/Taoda disclose: wherein: performing the divertible

Art Unit: 2171

operation comprises reading data from blocks allocated to the space identified by the array storage system space reference (col. 7, lines 44-64, Pothapragada); and the operation result information includes an indication that the read operation is complete (col. 5, lines 10-31, Pothapragada).

Regarding claim 6, all the limitations of this claim have been noted in the rejection of claim 5 above. In addition, Pothapragada/Taoda disclose: wherein the step of the updating the file system data management arrangement includes causing the file system processes to modify access data in an entry for the file specified in the read operation (fig. 8 and corresponding text, Pothapragada).

Regarding claim 7, all the limitations of this claim have been noted in the rejection of claim I above. In addition, Pothapragada/Taoda disclose: wherein the step of the determining if the file system access operation request includes a divertible operation is performed with a wedge file system interposed between a file system client and the file system processes associated with the data storage apparatus (col. 7, lines 44-64, Pothapragada).

Regarding claim 8, all the limitations of this claim have been noted in the rejection of claim 7 above. In addition, Pothapragada/Taoda disclose: wherein the step of determining if the file system access operation request includes a divertible operation comprises reading a file attribute for the file specified in the file system access operation request (308, 312, fig. 1 and corresponding text, Pothapragada).

Regarding claim 9, all the limitations of this claim have been noted in the rejection of claim 7 above. In addition, Pothapragada/Taoda disclose: wherein the step of the determining if the file system access operation request includes a divertible operation comprises reading a file size included in the file system access operation request. (310, fig. 1 and corresponding text, Pothapragada).

Regarding claim 10, all the limitations of this claim have been noted in the rejection of claim 1 above. In addition, Pothapragada/Taoda disclose: further including the step of modifying the divertible operation to a form suitable to be performed by the array controller processes (16-21, fig. 3 and corresponding text, Taoda).

Regarding claim 12, all the limitations of this claim have been noted in the rejection of claim 1 above. In addition, Pothapragada/Taoda disclose: wherein the step of determining if the file system access operation request includes a divertible operation is performed by the file system processes (308, 310, fig. 1 and corresponding text, Pothapragada).

Regarding claim 13, all the limitations of this claim have been noted in the rejection of claim 1 above. In addition, Pothapragada/Taoda disclose: wherein the divertible operation comprises a write or a create operation and the step of performing the divertible operation with the array controller processes includes passing data for a file specified in the divertible operation directly from a file system client to the array controller processes (col. 7, lines 13-30, Pothapragada).

Claims 11, 14, 17, 23, 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pothapragada et al. (U.S 6442682) (Pothapragada) in view of Taoda (U.S 5857459) and further in view of Venkatesh et al. (U.S 5974503) (Venkatesh).

Regarding claims 11, 17 and 23, most of the limitations of these claims have been noted in the rejection of claims 1, 15 and 21 above, respectively. However, Pothapragada/Taoda didn't disclose: wherein the step of modifying the divertible operation comprises converting the operation from a byte offset operation to a block access operation. On the other hand, Venkatesh disclose: wherein the step of modifying the divertible operation comprises converting the operation from a byte offset operation to a block access operation (col. 40, lines 35-45, Venkatesh). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include the step of modifying the divertible operation comprises converting the operation from a byte offset operation to a block access operation in the combination system of Pothapragada/ Taoda as taught by Venkatesh. The motivation being to enable the user to apply the encoding techniques to control the block access in the large file from the storage devices.

Regarding claim 14, all the limitations of this claim have been noted in the rejection of claim 1 above. In addition, Pothapragada/Taoda/Venkatesh disclose: wherein the divertible operation comprises a read operation and the step of performing the divertible operation with the array controller processes includes passing data for a file specified in the divertible operation

Art Unit: 2171

directly from the array controller processes to a file system client (col. 28, lines 55 to col. 29, lines 6, Venkatesh).

Regarding claim 27, all the limitations of this claim have been noted in the rejection of claim 26 above. In addition, Pothapragada/Taoda/Venkatesh disclose: wherein the data processing means comprises: an array controller executing the array controller processes (fig. 10 and corresponding text, Pothapragada); a file system processor executing file system processes and maintaining the file system data management arrangement (col. 27, lines 36-49, Venkatesh).

Regarding claim 28, all the limitations of this claim have been noted in the rejection of claim 26 above. In addition, Pothapragada/Taoda/Venkatesh disclose: wherein the input/output arrangement includes: an input/output port having a physical input/output connection (fig. 11 and corresponding text, Pothapragada); and a network protocol stack component operatively connected to the input/output port (74, fig. 5 and corresponding text, Venkatesh). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include a network protocol stack component operatively connected to the input/output port in the combination system of Pothapragada/ Taoda as taught by Venkatesh. The motivation being to enable the user to communicate with the network services using protocol stack to control input/output operations in file system.

Regarding claim 29, all the limitations of this claim have been noted in the rejection of claim 26 above. In addition, Pothapragada/Taoda/Venkatesh disclose: wherein the network

Art Unit: 2171

protocol stack component provides network interface facilities for both the array controller and the file system processor (73, fig. 5 and corresponding text, Venkatesh).

Response to Arguments

Applicant's arguments filed on July 16, 2003 have been fully considered but they are not persuasive. The arguments and responses are listed below.

Applicant argues on page 3 of the 7/16/2003 response that, "the 682 Patent does not teach or suggest handling file system requests differently on a request by request basis depending upon the nature of the request".

In response to Applicant's argument, the Examiner disagrees. The 682 patent is not relied upon for that feature, instead 459 patent teaches looking at characteristics of a file and then storing it on multiple disks depending upon those characteristics, which is acknowledged by the Applicants on page 6 of the 7/16/2003 response. The feature of transferring files based upon the characteristics to unique data storages is equivalent to handling file system differently based on a request to request basis. The motivation for combining the two patents is provided in the first rejection filed on 4/16/2003.

Applicant argues on page 3 and page 5 of the 7/16/2003 response that, the 459 and 682 patents do not teach or suggest diverting file access requests around the file system processes.

Art Unit: 2171

In response to Applicant's argument, the Examiner disagrees. Relating to claim 1, Applicant does not distinguish divertible from non-divertible files, further relating to the other independent claims, Applicant does not specifically define divertible files from non-divertible files (e.g. what component handles divertible and/or non-divertible files), hence at the time the rejection was made files that were successful were interpreted as divertible and all other files which failed were not passed on to the storage system (fig. 12A and fig 13, patent 459) thus being non-divertible. Further, to clarify the state of prior art, the Examiner points to figure 1 listed as prior art by the Applicants and related text which clearly discloses all the features presently claimed by the independent claims, see page 3, lines 2-6, specification.

Applicant argues on page 9 of the 7/16/2003 response that Venkatesh does not make up for the deficiencies of the 682 and 459 patents.

In response to Applicant's argument regarding the Venkatesh patent, the Examiner notes that in view of the 682 and 459 patents the conversion from a byte offset operation to a block access operation is inherent by having combined the 682 and 459 patents respectively, further Venkatesh teaches it was a common programming practice to convert operations at the time the invention was made (see 4/16/2003 office action). Further as explained above, the 682 and 459 patents do not have any deficiencies when combined together and rejected under *35 USC § 103*.

Art Unit: 2171

With respect to all the pending claims 1-29, the Examiner respectfully traverses Applicant's assertion based on the discussion cited above, as such, Examiner maintains the same rejections.

Conclusion

To expedite the process of examination Examiner requests that all future correspondences in regard to overcoming prior art rejections or other issues (e.g. 35 U.S.C. 112, objections and the like) set forth by the Examiner that Applicants provide and link to the most specific page and line numbers of the disclosure where the best support is found (see 35 U.S.C. 132).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Marc R Filipezyk** whose telephone number is 703-305-7156. The examiner can normally be reached on Mon-Fri, 8am-4:30pm.

Art Unit: 2171

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

MF

September 29, 2003



SAFET METJAHIC
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100